STATE OF NEW HAMPSHIRE
BEFORE THE PUBLIC UTILITIES COMMISSION

In the matter of:	**)**	
Public Service Company of New Hampshire	**)**	**DE 03-200**
Permanent Rate Increase	**)**	

Direct Prefiled Testimony of
Lee Smith
La Capra Associates

May 28, 2004

TESTIMONY OF LEE SMITH
ON BEHALF OF
OFFICE OF THE CONSUMER ADVOCATE

Public Service Company of New Hampshire Docket DE 03-200

TESTIMONY OF LEE SMITH
ON BEHALF OF
OFFICE OF THE CONSUMER ADVOCATE

Public Service Company of New Hampshire Docket DE 03-200

I. Introduction

Q. What is your name and business address?

A. My name is Lee Smith. I work for La Capra Associates, 333 Washington Street, Boston, Massachusetts.

Q. What is your occupational experience?

A. I am a Senior Economist and Managing Consultant at La Capra Associates. I have been with this energy planning and regulatory economics firm for 20 years. Prior to my employment at La Capra Associates, I was Director of Rates and Research, in charge of gas, electric, and water rates, at the Massachusetts Department of Public Utilities ("DPU", now the Department of Telecommunications and Energy, or "DTE"). Prior to that period, I taught economics at the college level.

Q. What is your experience in rate design and cost allocation?

A. Since leaving the Massachusetts DPU, I have performed cost studies and prepared rate design for over twenty utilities in more than a dozen states. I have advised public utility commissions and consumer advocates on issues related to electric and gas rates, and electric restructuring. My resume is contained in Attachment 1.

Q. Please describe your educational background.

A. I have a bachelor's degree with honors in International Relations and Economics from Brown University. I have completed all requirements for the Ph.D. except

the dissertation from Tufts University.

Q. On whose behalf are you testifying in this proceeding?

A. I am testifying on behalf of the New Hampshire Office of the Consumer Advocate ("OCA").

Q. What is the purpose of your testimony?

A. I am testifying regarding the rate application by Public Service Company of New Hampshire ("PSNH" or "Company") in this proceeding. In particular, I address the proposed treatment of transmission costs through a "Transmission Cost Adjustment Mechanism" ("TCAM"), the Company's allocated cost of service study, the allocation to customer classes of any revenue change, and rate design.

Q. Please summarize your testimony.

A. I recommend approval of the TCAM, if the Commission recognizes its impact on lowering risk and the Company's Return on Equity, as recommended by Mr. Traum. I criticize some aspects of the Company's allocated cost of service study, and recommend that some costs should be allocated in a different manner. This results in my concluding that the residential class is actually earning slightly more than the average system rate of return. I believe that the differences in class rates of return are small enough that the Company's proposal to change to each class by an equal percentage is reasonable.

II. Proposed Transmission Adjustor

Q. How is the Company proposing to treat transmission costs?

A. The Company is proposing to recover all of its transmission costs that are jurisdictional to the Federal Energy Regulatory Commission ("FERC") through a Transmission Cost Adjustment Mechanism that will track those fluctuating costs, and reconcile TCAM costs to TCAM revenues annually. TCAM costs would

include all transmission costs charged to PSNH as a result of costs which are first billed to Northeast Utilities, and then allocated to PSNH and other Northeast affiliates. The Company states that these costs are outside of its control, and that it must be allowed to recover these costs because they are the result of rates approved by FERC. The Company further argues that, in the absence of a TCAM, it might need to make several retail rate case filings each year in order to reflect changing transmission costs.

Q. How has PSNH been collecting its transmission costs?

A. In spite of FERC regulation of transmission, the Company has been collecting its transmission costs through base rates determined in the Restructuring Case.

Q. Please describe the transmission costs that the Company is requesting be the basis for the TCAM that will be charged at the conclusion of this rate proceeding.

A. The initial rate has been designed to recover 2004 transmission costs – in other words, both historic and projected costs, less a credit for costs associated with some 34.5 kV transmission plant. This plant cost is currently included in the FERC rate, but the Company has requested that it be transferred to distribution accounts. The Company states that this transfer to distribution accounts will occur after approval by the Massachusetts DTE (New Hampshire and Connecticut regulators have already approved this transfer.)

Q. How will the TCAM adjustor work in the future?

A. At the beginning of each year, the Company would forecast its transmission costs for the coming calendar year. The adjustor would also be designed to recover any under or over recovery from the previous year, with interest accrued at the Company's cost of capital. Note that once the 34.5 KV assets have been transferred, and thus eliminated from the FERC-jurisdictional rate, the temporary credit would no longer appear.

Q. What impact will approval of this adjustor have on the Company?

A. This adjustor will result in reducing risk that the Company has been experiencing with regard to recovery of transmission costs through base rates. If the TCAM adjustor is approved, there will be no future recovery risk associated with FERC-jurisdictional transmission costs, due to regulatory lag or any other retail ratemaking issues. Rather, the Company would be guaranteed recovery of approximately $24 million, or about 11 % of its current retail regulated delivery service revenues. Mr. Traum addresses this risk impact in his testimony.

Note that the FERC transmission rate will provide the Company with transmission revenues that reflect a FERC-granted return on transmission plant. Even if the adjustor is not approved, but retail base rates provide for recovery of the projected 2004 costs, transmission revenues will provide the Company with a return on its investment in transmission plant that is likely to be higher than would be granted by the NHPUC for its jurisdictional plant.

Q. If the Commission does reflect the reduction to risk resulting from this adjustor proposal, are there any elements of this proposal that you recommend modifying?

A. Yes. Because there will be no risk of underrecovery of transmission costs, the interest applied to the under or over recovery should not reflect any equity return, but should rather be at the prime rate used by the Commission for under or over recoveries.

Q. How has the Company allocated transmission costs among classes?

A. Mr. Hall testified that the Company has allocated the transmission revenue requirement among tariffed customer classes on the basis of each class' average demand at times of peak demand on the Northeast Utilities ("NU") system. The only exception was Rate B, which applies to 14 customers. The transmission cost allocation to Rate B was based on the average class billing demands.

Q. Do you find the Company's proposal for allocation of transmission costs incorrect, given that this allocation is based on a combination of monthly class coincident peak demands and average class billing demand (for Rate B)?

A. No. This approach basically reflects how transmission costs are allocated to PSNH. For most rate classes, the class coincident peak is likely to reflect the peak load that the Company planned its system to meet, as the class peak will not vary greatly from one year to the next. In contrast, Rate B loads at different times will be highly variable. The proposed Rate B treatment reflects the variability of Rate B demands. In 2003, for instance, the Rate B load at the time of the PSNH peak was 4,489 KWs, while the Rate B peak at the time of the NU peak was only 1,929 KWs. (Attachment 2 Data response IPP-01-019) Although in some months (even years) Rate B's coincident (with the NU system peak) demands may be considerably lower than its billing demands, the system has been built to meet the potential demand of these customers. (Attachment 3 Data Response OCA-04-014) The impact of the Rate B potential demand will reflect little diversity. Thus the total demand at any given time could reflect all of the customers in one area utilizing backup service. The fourteen Rate B customers are found in ten different distribution areas, and in eight of these areas there is only one Rate B customer (Attachment 4 Data Response OCA-04-013). Any time that one of these customers used its average demand level, the transmission system in that area would have to provide for that load.

III. Allocation of Distribution Costs

Q. Has the Company submitted an allocated cost of service study in this proceeding?

A. Yes. Mr. Goodwin sponsors two allocated cost of service studies for distribution costs: one allocates test year costs, and the other allocates proforma costs per the Company's revenue request. The proforma cost of service study produces class rates of return that vary around the system average. However, the variance is not

large, except for the very small classes, which are generally duplicate rates such as the off-peak water heating classes.

Q. Has the Company proposed to use the results of its allocated cost of service study as the basis for rate increases to individual rate classes?

A. No. The Company proposes to set each class' revenue requirement simply by applying to each a percentage increase that equals the percentage increase requested in its overall revenue requirements.

Q. Do you support the Company's proposal to increase rates in each class by the same percentage?

A. The OCA is recommending a rate decrease. Changing each broad class of customers by the same percentage is a reasonable approach. I believe that this approach is well-justified by the revised version of the cost of service study that better reflects cost causation. This study is discussed below.

Q. Please describe the Company's allocated cost of service study.

A. The Company utilized a new model to develop its first distribution-only allocated cost of service studies. Mr. Goodwin states that the cost allocation methodology "replicates" the methodology employed in Docket No. DR 97-059. Some but not all of the data used in allocation has been updated. I believe it is more accurate to say that the allocation methodologies used are similar to those contained in the allocated study submitted in DR 97-059.

Q. Does the similarity between this study and the DR 97-059 study mean that current rates and rate designs are based on the same methodology that is being presented here?

A. No, it does not. The cost study filed in 97-059 was not used to set class revenue targets or to design rates. This case was incorporated in the Restructuring case, 99-099. The 97-059 cost of service study did not result in setting or modifying class revenue targets. Thus the reasonableness of the allocation study presented in 97-059 has never been ruled on by the Commission.

Q. Do you find any problems with the Company's proforma allocated cost of service study?

A. Yes. One of the fundamental principles of ratemaking is that rates should reflect the cost of serving different customer classes. The allocation study should therefore allocate each cost as best as possible according to characteristics that relate to why the company incurred the cost. While I have not made an exhaustive analysis of the cost of service study, I believe that the Company's allocations with respect to a number of important cost accounts do not reflect cost causation and should be modified accordingly. The methodology for allocating demand-related distribution plant does not appropriately reflect cost allocation. Specifically, I recommend a different treatment of Accounts 364 and 365. I also believe the allocation of the proposed large amortization associated with under and overcollections of costs is incorrect as it is unrelated to cost causation.

Q. How should distribution plant be allocated?

A. The amount that the Company spends on some plant accounts, such as meters and services, is determined by the numbers of customers and the cost of the meter and the service line. However, most other distribution plant investment is driven by the load that the plant must carry. Line conductors and underground plant are planned to meet peak load, and poles must be higher and have more fixtures when they carry higher voltage and heavier conductor. There is debate as to how to classify plant. If plant is considered demand related, the question is what peak load each type of plant plant was sized for. Plant that is very close to the customer load may need to be sized to meet the customer's maximum load, or individual peak, but more often, plant is sized to meet the peak load that results from a number of customers. Plant that is farther from the customer must meet the maximum load of a larger group of customers that it is serving. If we had load data based on circuits, we would use the maximum load on the circuit, and allocation would be based on what each customer contributed to that maximum circuit load. Since we almost never have such data, in practice we usually

assume that classes of customers tend to be on the same distribution circuits. Circuits which serve primarily residential customers must meet the residential class peak (or class Noncoincident Peak), and the same for other classes.

Another plant characteristic that is useful in the allocation process is the voltage level at which the plant operates. Higher voltage plant, also called primary plant, serves all customers. This is similar to the major highway system. Most residential customers take service at lower voltages, and electric current is often reduced to lower voltage, or secondary, to deliver to these customers. This is equivalent to local roads. Primary plant is allocated to all customers, but secondary plant is allocated only to customers who take service at the secondary level.

Q. How does the Company allocate costs in Account 364, "poles, towers and fixtures"?

A. The Company allocates 2% of the costs in this account on the basis of the number of customers, 49% on the basis of its Individual Customer Peak ("ICP") allocator, and 49% on the basis of its Non-Coincident Peak ("NCP") allocator.

Q. Please explain these peak allocators.

A. The major peak allocators include the Coincident Peak, the NCP, and the ICP. The coincident peak measures (actually it reflects estimated measurements) what each class contributes to the system peak. The ICP allocator adds together the estimated peak loads of every individual customer in a given rate class, and divides by the sum of all (i.e., across all rate classes) customers' estimated individual peak loads. Class loads used in the CP are almost always less than class loads in the ICP, since they reflect diversity. Diversity refers to the fact that customers peak at different times, so that when you examine how much energy they are using collectively at any particular hour it is less than the sum of their individual peaks. For instance, residential customers tend to peak in the early evening, while commercial customers tend to peak in the middle of a hot afternoon – while there will be individual exceptions in both classes that peak at

very different times. Utilizing the ICP allocator implies that there is no diversity to cost causation; that is, that the subject distribution plant had to be sized to meet the sum of all customers' individual peak loads, even if those individual peaks occurred at different times. The NCP allocator instead estimates the peak load of the residential class as a whole, and the peak load of each other class, whenever they occur. This allocator does recognize diversity; using it implies that distribution plant is sized to meet the greatest load of individual rate classes.

Q. Why did the Company allocate a portion of the costs in Account 364 on the number of customers and a larger portion on its ICP allocator?

A. The Company has duplicated methodologies utilized in the cost of service study submitted in Docket No. DR-97-059. Its responses to data requests about its splitting of distribution plant accounts in this case primarily refer back to the 97-059 study. The 2% allocation based on number of customers is described as a "pure Customer Component", based on "the secondary fixtures attached to support secondary wires to the poles" (Attachment 5 Data Response OCA-03-098) This does not explain why these fixtures are supposed to be determined by the number of customers. The reason for the allocation of 49% on ICP is also unclear. It is described as "…a demand-based allocation of the customer-related portion of costs, which varies based on the individual peak demands" (Attachment 6 Data Response OCA-03-099). The source, though not the rationale, for this plant split, is evidently that these are poles that are identified as "secondary" (Attachment 7 is page 1 of bulk Data Response OCA-03-100, balance available upon request).

Q. Has the Company demonstrated that "secondary" plant investment is driven by the sum of Individual Customer peaks?

A. No, the Company has not presented any evidence that indicates that the number of customers is an important variable in determining the costs of poles, towers, and fixtures. In fact, in response to OCA3-099 (Attachment 6), which asked for the circumstances in which more or taller poles would be added, the Company states

that pole additions "…are the result of general load growth, increased reliability, increased quality of service, or circuit reconfiguration. Most changes are not attributed to an individual customer." Further, in response to OCA-04-005 (Attachment 8), the Company states that it plans its distribution system based on actual load data, so that the system is planned for loads which "…take into account the diversity of the secondary distribution system.

Q. Please describe this in a simple example.

A. Suppose the plant we are examining is the poles and secondary conductor serving 5 residential customers on a street. The planner estimates from data on similar areas the expected peak load on this street, which is likely to be a hot summer evening, and designs a system to meet this load. The sum of individual customer peaks, which may occur at different times, is not used to design the poles and wire delivery system. Only the services going to the individual homes (and the meters) must be sized to meet the individual customer peaks.

Q. Is it appropriate to allocate costs from Account 364 using the ICP allocator?

A. No. Allocating any of this plant using allocators other than Non-coincident Peak does not reflect cost causation. Most investment in poles is determined primarily by the highest demand on the individual circuits. I believe this conclusion results either from considering the basis on which the system was originally constructed and or from the standpoint of investments that are being made today. Originally, poles were installed in order to provide service, but the decision to provide service would have been based on the expectation that customers would use enough electricity to provide revenue that would justify the investment in the poles. This is the treatment of line extensions for new customers; if customers need more investment than is justified by expected revenues from the customer, the customer has to contribute to the cost of the plant. The size of the poles installed, which also impacts the cost in Account 364, is determined primarily by the weight of the conductor and the amount of equipment which the poles will carry. The conductor is heavier and there is more equipment to be supported by the pole

when the load carried is greater. (Attachment 9 Data Response OCA-4-16) The resulting conclusion is that the cost of the pole installed is a function of demand – the highest demand on the circuit.

New distribution poles typically are installed (except for replacement investment) (1) to add customers in locations where there is no service, (2) because an existing pole is not adequate for the equipment necessary to meet increased load, or (3) because there is some unrelated requirement such as roadway expansion. Poles in new locations are either justified because the Company expects adequate revenues to recover its costs, or because the customers are contributing directly to the cost. The Company's line extension policy requires that the customer contribute directly to the cost of installing poles if more than one pole is required. The size and cost of replacement poles, as with the original equipment, is determined primarily by the demand on the circuit. (Attachment 10 Data Response OCA 3-95) In other words, the Company must spend more on poles on specific circuits to serve higher loads in those circuits. Given that we do not have circuit specific load data per class, the NCP allocator best reflects this cost causative characteristic.

Q. How does the Company allocate costs from Account 365, "Overhead Conductors and Devices"?

A. The Company allocates 19% of the costs in this account on the basis of the ICP allocator, 60% on the basis of the NCP allocator, and the remaining 21% on the basis of an NCP single-phase allocator that excludes customers taking service from three-phase conductors. The Company labels their NCP allocators as "Demand: Semi Collective", but I will use the more common term, non-coincident peak.

Q. What was the basis for splitting Account 365 into these three portions?

A. Evidently, the Company estimated in the DR 97-59 study that 40% of their conductor could be considered secondary. (Attachment 11 Data Response Staff

01-067) The Company then treated 19% of the total plant cost as customer related, and allocated it based on the ICP secondary allocator.

Q. How was 19% of plant estimated to be customer-related?

A. This is not completely clear. Attachment 12, 1st page of bulk Data Response OCA -3-102 (balance available upon request) indicates that this percentage was based on an analysis performed for DE-97-059. However, the data provided in OCA-3-102 appears to show that 44% of the total plant cost was estimated to be secondary, and the 19% calculation does not appear to be derived on this worksheet.

Q. Has the Company provided any evidence that 19% of the costs in Account 365 were incurred in order to meet the sum of individual customer peaks?

A. It does not appear to have done so. In fact, as noted earlier, the Company agrees that it plans on the basis of diversity of loads. (Attachment 8) I note that a marginal cost analysis would also point to load, rather than number of customers, as being the driver of account 365. If load increases on a circuit, even if there is no increase in the number of customers, it may be necessary to install more expensive conductor that can carry more load. By contrast, if the number of customers on a circuit increases, but there is no increase in load, it would not be necessary to install more conductors. There is no evidence that 19% of the costs in Account 365 were planned to meet the sum of individual customer peak loads. If costs were not planned specifically to meet the sum of individual customer peak loads, this is an incorrect allocator.

Q. You have only mentioned Accounts 364 and 365. Do you think that the Company has correctly allocated the other demand-related distribution accounts, 366, 367, and 368.

A. I do not have major concerns with these accounts. With regard to the underground plant in accounts 366 and 367, the Company has again relied on the

old DR-97-059 study as the basis for allocating 12% of plant on the basis of ICP. While I don't believe the Company has provided adequate justification for this treatment, this is a relatively small percentage of the total plant amount. As I understand the allocation of transformers, the Company has accounted for the cost of the different transformers which serve different classes, and also reflected the typical number of customers served by transformers in the different classes. While it is not clear why they allocated a small amount of transformer plant on ICP, there are instances where transformers are sized to meet individual customer peaks rather than diversified peaks. I am not recommending specific adjustments to either of these allocations, but I do recommend that in its next rate case the Company provide up-dated analysis of all distribution plant allocations.

Q. You have described only allocation of plant. Does this mean that you accept all of the Company's allocations of expenses?

A. No. Many expense accounts are allocated on the basis of internal allocators that are based on the plant allocation. If a plant allocator is too high for a particular class, any internal expense or general plant allocator based on this will also be too high. However, if the plant allocator is corrected, the internal allocator and the resulting expense allocation will also be corrected automatically by the cost of service model. Thus if plant is allocated correctly the expenses will also be reallocated correctly. This reallocation is discussed later in my testimony.

Q. Please describe the proposed "One-time Proforma Revenue Adjustment".

A. The Company is proposing that a number of revenue adjustments be grouped together and recovered over a three year amortization. These adjustments include:

- $2,944,000 of bad debt resulting from non-payment by the firm American Tissue, which became bankrupt on September 10, 2001. This adjustment results in an increase in revenue requirement of approximately $1 million per year for three years.
- $5,699,000 in the Major Storm Reserve that the Commission, in the Restructuring Settlement, ordered be returned to customers over 12 months or some other period. This adjustment alone would result in a reduction to revenue requirements of from approximately $5.7 million to

$1.6 million per year, depending on whether the period over which it was returned was one year or three years.

- A balance of $3,753,000 in Deferred Rate Reduction Bond Servicing Revenues, which is to be returned to customers (over some period), which will itself decrease revenue requirements.
- A $7,120,000 deferred balance for the Environmental Remediation Reserve, which the Restructuring Settlement allowed recovery of, again over some unspecified period. This adjustment would tend to increase revenue requirements.
- The delivery service portion, $6,243,000, of a regulatory asset that resulted from a change in how electric utilities are taxed, which created additional tax liabilities that have not been collected.

Q. What is PSNH's basis for netting all of these very different costs and credits?

A. Mr. Hall testifies that netting these adjustments simplifies the accounting process. He also testifies that the effect on rates is identical regardless of whether these amounts are netted or tracked separately.

Q. Does it appear that treating these adjustments separately would be burdensome to the Company?

A. It does not, since the Company proposes a separate accounting for the collection of the relatively small sum of $132,800 associated with past lost revenues from the Wausau special pricing arrangement. The Company is able to track separately the collection of these dollars over a proposed three year amortization period.

Q. How does PSNH propose to allocate this "One-Time Proforma Revenue Adjustment" for ratemaking purposes?

A. The Company proposes that the total adjustment be allocated based on overhead, which is an internal allocator reflecting how all overhead has been allocated.

Q. Does this allocation reflect cost causation?

A. No, it does not. Most of the items included in the adjustment result from the Company having under- or over-collected revenues from all customers. The total of $3,911,000 (which is the net amount of the various credits and charges) is revenue related, and thus should therefore be charged to all customers. An

exception would be the $2,944,000 amount that resulted from a nonpayment by a larger industrial customer. It seems to me that this amount, if recognized at all, should be collected from large industrial customers. These customers, by their very size, result in a much greater risk to the utility of uncollectible revenues than do smaller customers, and this should be reflected in their rates. The Company argues that all customers should pay this because the State urged the Company not to terminate service, to increase the likelihood of the mill returning to operation. This also suggests that the Company itself did not gain from its failure to terminate, but it also benefits from the reopening of the facility. The Company's reasoning would suggest that residential and small commercial customers should always pay more than the cost of serving them in order to keep industrial rates low. As far as I know, this is not the way in which New Hampshire has regulated rates. I believe that for class rates to reflect costs the costs must include the risk associated with different rate classes.

Q. What do you recommend with regard to the One-Time Proforma Revenue Adjustment?

A. I recommend that this regulatory asset should separated into two regulatory assets. The part that represents under and overcollections of various revenues should be allocated on the basis of total revenues and amortized over three years. The part that reflects the American Tissue non-payment, if allowed at all, should be allocated only to commercial and industrial rate classes, and should be amortized over a period long enough not to create hardship to these classes.

Q. Do you know what the results of all of your recommendations are on allocated costs?

A. Yes. In Data Response OCA 5-05 (Attachment 13), the Company utilized its cost of service model to allocate its proposed revenue requirements, in the manner I have recommended. Account 364 was allocated completely using the Company's NCP allocator, and Account 365 also was allocated on NCPs: 40% on the basis of the single-phase allocator, and the remaining 60% on the basis of the NCP

allocator for all classes. Also, $998,000 of uncollectible revenue from the American Tissue account was allocated to general service rate classes, while the remaining $1,303,000 was allocated on the basis of total revenue (both were amortized over three years). The resulting cost of service study found that the total residential class earned 4.64%, slightly more than the system average of 4.44%, the Rate G total earned slightly more at 5.37%, while the other general service and streetlighting classes earned varying returns; the lowest class return was Rate B at -0.598% with the highest from EOL at 8.75%.

Q. Do you have any comments on rate design?

A. The only rate design changes which the Company is proposing are increases in the metering charges for the Water Heating Classes, for Load Controlled Service, and for Controlled Off-Peak Electric Water Heating. Since these duplicate rates have considerably lower rates of return than the regular residential or general service, I support this change.

Q. Please summarize your conclusions.

A. Although I have been critical of various allocations, my conclusion is that an equal percentage allocation of any increase or decrease in revenue resulting from this proceeding is appropriate.

Q. Does this conclude your testimony?

A. Yes.